REMARKS

This amendment is being filed in response to an Office Action mailed on 11/02/2005, in which the Examiner said that claims 1-18, 29-34, and 45-50 were pending but rejected. In this amendment, claims 1-18, 29-34, and 45-50 are canceled, and new claims 61-76 are added.

Claims Rejected under 35 USC §102

In the above-mentioned Office Action, the Examiner said that claims 1-7 were rejected under 35 USC §102(e) as being anticipated by U.S. Pat. No. 6,590,928 to Haartsen. The Examiner also said that claims 8-18, 29-34, and 45-50 were rejected as being unpatentable over Haartsen, and further in view of U.S. Pat. App. Pub. No. 2002/004535A1 to Fantaske.

In this amendment, claims 1-18, 29-34, and 45-50 are canceled.

New Claims

In this amendment, new claims 61-76 have been added to describe the differences between the Applicants' invention and that of Haartsen, with the method and system of the Applicants' invention for determining a path through intermediate mobile units between the remote mobile unit requesting access and the access point and for selecting one path among a plurality of possibilities being described in detail. Adding the teachings of Fantaske to those of Haartsen does not overcome the deficiencies of Haartsen in describing these aspects of the Applicants' invention, since Fantaske does not describe a method for determining a path through intermediate mobile units. Therefore, the patentability of these new claims is discussed below in terms of the relationship between their requirements and the disclosure of Haartsen.

These new claims 61-76 describe the elected invention of original claims 1-18, 29-34, and 45-50, with the new independent claim 61, like the previously submitted claim 1, describing "A method for providing wireless data communication between an access point connected to a communication network and a remote mobile unit, out of range of direct wireless communication," and with the new independent claim 71, like the previously submitted claim 10, describing "A system for providing a wireless connection to a communication network in a remote location."

Both the Applicants' invention and that of Haartsen describe wireless network systems in which communication occurs between units that are out of range by means of a path including intermediate units, but the method for establishing such a path and for choosing a particular path from a number of possible alternatives are much different.

In accordance with the Applicant's invention, a mobile unit attempting to access the Internet through a access point first determines that there is no access point within its range, and then, in response to this determination, sends remote access request frames, including the address of the mobile unit requesting access, attempting to contact another mobile unit to gain access to the access point. Any other mobile unit receiving the access request frame adds its address to them and retransmits them. A mobile unit in direct communication with the access point is said to be associated with the access point, in accordance with conventional wireless terminology. Such a mobile unit, associated with the access point, adds its address to the request frames and transmits them to the access point. After the access point receives the request frames, it generates approval frames, including all of the mobile unit addresses added during the transmission of the request frames, with these addresses being used to transmit the approval frames along the path form which they were received, but in reverse order. In general, multiple paths between the mobile unit requesting

transmission and one or more access points will be established in this way, with the path through which data will subsequently be transmitted being established as the path through which approval frames are first returned. Other criteria may be used as well, such as minimizing the number of retransmissions, as indicated by the number of attached addresses, or the bandwidth available in intermediate mobile units. Thus, in accordance with the Applicants' invention, the communication path is established on an ad hoc basis in response to the request frames transmitted by the mobile unit requesting access.

On the other hand, in the wireless system described by Haartsen, the mobile units that will form a path between units out of range from one are arranged in a scatter network or in piconets according to their ability to communicate with one another before the access is requested, using relationships determined by an inquiry process in which a mobile unit transmits inquiry frames on a periodic basis and receives addresses in response from units within range.

Regarding independent claims 61 and 71, support for these new claims is found in the application as originally filed on page 12, line 1, through page 14, line 6. In particular, the transmission of request information along a plurality of paths is discussed on page 12, lines 7-17. Transmitting request approval information along a plurality of paths from the access point and receiving such information within the remote mobile unit is discussed on page 13, lines 2-14. Selecting only one such path within the remote mobile unit is discussed on page 13, lines 14-20.

The Applicants respectfully submit that Haartsen fails to anticipate the requirements in claim 61 of step d) for receiving path information including the request at the access point, with a portion of the path information being transmitted by radio to the access point along a plurality of paths. The Applicants further submit that Haartsen fails to anticipate the requirements of step e) for the

remote access response to be transmitted from the access point along each path in a plurality of paths. In addition, the Applicants respectfully submit that Haartsen fails to anticipate the requirements of steps f) and g) for the remote access response to be received at the remote mobile terminal, having been transmitted along a plurality of paths, or for the remote mobile terminal to select one of these paths for subsequent data transmission.

Furthermore, the Applicants respectfully submit that Haartsen fails to anticipate the requirements of claim 71 for the access point to include a microprocessor programmed to receive microprocessor programmed to receive information transmitted along each path within a plurality of paths, to transmit a remote access response along each path within said plurality of paths, and to direct communications between said communication network.

Instead, Haartsen teaches that the intermediate mobile units must be arranged in a scattered network or in piconets before the remote mobile unit requests access by transmitting remote access information. This arrangement of the intermediate mobile units is described in column 13, line 40, through column 14, line 20. This arrangement is used to establish a single route through the intermediate mobile units of Haartsen when an access request is received from a single mobile unit. For example, as described in column 14, lines 6-20, a single intermediate unit within two piconets acts as a bridge between them, establishing a path between a requesting unit in one of the piconets and another unit in the other piconet. Thus, only one path is generated for each request. There is no instance in Haartsen of a request being transmitted along each path within a plurality of paths and of a response from the access unit being returned along each path within the plurality of paths. This is, instead, the method of the Applicants' invention for determining which path(s) provide optimal performance.

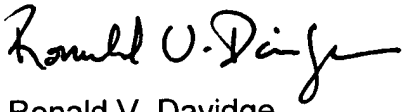
Regarding dependent claims 62-70 and 72-76, since each of these claims merely adds it limitations to either claim 61 or 71, these dependent claims are believed to be patentable for reasons described above in detail regarding the independent claims 61 and 71. Additionally, since Haartsen fails to describe the Applicants' method of sending request information from the remote mobile unit to the access point along a plurality of paths, returning request response information along the same plurality of paths, and selecting a path based on which instance of the request response information returns first, the Applicants respectfully submit that Haartsen fails to describe the additional requirements of claims 66 and 74.

Support for claims 62-65 and 72 is found in the application as originally filed on page 12, lines 9-17. Support for claims 66 and 74 is found on page 13, lines 22-27. Support for claims 67 and 75 is found on page 13, line 28, through page 14, line 1. Support for claims 68 and 73 is found on page 11, lines 26-28, and on page 12, lines 11-12, with association with the access unit being described on page 3, lines 5-16. Support for claim 69 is found on page 12, lines 1-3. Support for claims 70 and 76 is found on page 27, lines 16-24.

Conclusions

The Applicants respectfully submit that the application, including claims 61-76, is now in condition for allowance, and that action is respectfully requested, along with reconsideration and withdrawal of all reasons given for objections and rejections.

Respectfully submitted,



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